

## IN THE CLAIMS

1. (Currently Amended) A gamma camera comprising:
  - a plurality of pixelated detectors wherein each pixelated detector provides a detector signal responsive to photons that are incident on it;
  - a plurality of processing circuits that receive said detector signals and provide processed signals responsive to said detector signals; and
  - at least one printed circuit board on which said ~~processing circuits~~ plurality of pixelated detectors are mounted and having conductors thereon that carry said detector signals to said processing circuits;
  - wherein said processing circuits are mounted on said printed circuit board at locations remote from said detectors; and
  - wherein said plurality of pixelated detectors form a two-dimensional planar array.
2. (Currently Amended) A gamma camera according to claim 1 comprising a motherboard having conductors thereon and wherein conductors in said ~~mother board~~ motherboard and conductors in said printed circuit board are in electrical contact and wherein said conductors on said motherboard carry processed signals.
3. (Original) A gamma camera according to claim 1 and including a heat-insulating material situated between said pixelated detectors and said processing circuits.
4. (Original) A gamma camera according to claim 3 wherein said heat-insulating material and said pixelated detectors are spaced apart.
5. (Original) A gamma camera according to claim 4 comprising an air circulator that circulates air in said space between said heat-insulating material and said pixelated detectors.
6. (Original) A gamma camera according to claim 3 wherein said heat-insulating material and said processing circuits are spaced apart.
7. (Original) A gamma camera according to claim 6 comprising an air circulator that circulates air in said space between said heat insulating material and said processing circuits.

8. (Currently Amended) A gamma camera according to claim 5 7 comprising an air cooler that cools air circulated by said air circulator.

9. (Original) A gamma camera according to claim 1 and comprising a cooling system comprising heat pipes and a means for removing heat from said heat pipes wherein said heat pipes carry heat from said gamma camera to said means for removing heat.

10. (Original) A gamma camera according to claim 1 and comprising a cooling system having a refrigerant fluid, a means for removing heat from said refrigerant fluid and a means for circulating said refrigerant fluid between said gamma camera and said means for removing heat.

11. (Original) A gamma camera according to claim 1 wherein said processing circuits are comprised in ASICs.

12. (Original) A method of connecting a two dimensional planar array of pixelated gamma ray detectors with processing circuits for processing signals from said detector comprising:

locating said processing circuits so that they are remotely situated with respect to said pixelated detector; and

connecting said pixelated detectors to said processing circuits via conductors of a printed circuit board.

13. (Original) A method of protecting pixelated detectors in a gamma camera from heat radiated by processing circuits that process signals from said pixelated detectors comprising:

connecting said pixelated detectors in accordance with claim 12 so as to provide a space between said pixelated detectors and said processing circuits; and

circulating air in said space.

14. (Original) A method according to claim 13 comprising positioning heat-insulating material in said space between said pixelated detectors and said processing circuits.

15. (Original) A method according to claim 14 wherein positioning heat-insulating material comprises positioning heat-insulating material so that there is a space between said heat-insulating material and said pixelated detectors.

16. (Original) A method according to claim 15 wherein circulating air comprises circulating air in a region of said space between said heat-insulating material and said pixelated detectors.

17. (Original) A method according to claim 14 wherein positioning heat-insulating material comprises positioning heat-insulating material so that there is a space between said heat-insulating material and said processing circuits.

18. (Original) A method according to claim 17 wherein circulating air comprises circulating air in a region of said space between said heat-insulating material and said processing circuits.

19. (Original) A method according to claim 13 wherein circulating air comprises cooling air and circulating cooled air.

20. (New) A gamma camera comprising:

a plurality of pixelated detectors wherein each detector pixelated detector provides a detector signal responsive to photons that are incident on it, mounted on a first printed circuit board;

a plurality of processing circuits that receive said detector signals and provide processed signals responsive to said detector signals, mounted on a second printed circuit board,

wherein the first and second printed circuit boards are connected to each other without an intervening cable.

21. (New) A gamma camera according to claim 20 wherein the first and second printed circuit boards are connected together via a socket on one of the boards.

22. (New) A gamma camera according to claim 20 and including a heat-insulating material situated between said pixelated detectors and said processing circuits.

23. (New) A gamma camera according to claim 22 wherein said heat-insulating material and said pixelated detectors are spaced apart.

24. (New) A gamma camera according to claim 23 comprising an air circulator that circulates air in said space between said heat-insulating material and said pixelated detectors.

25. (New) A gamma camera according to claim 22 wherein said heat-insulating material and said processing circuits are spaced apart.

26. (New) A gamma camera according to claim 25 comprising an air circulator that circulates air in said space between said heat insulating material and said processing circuits.

27. (New) A gamma camera according to claim 26 comprising an air cooler that cools air circulated by said air circulator.

28. (New) A gamma camera according to claim 20 and comprising a cooling system comprising heat pipes and a means for removing heat from said heat pipes wherein said heat pipes carry heat from said gamma camera to said means for removing heat.